

KIC 006949898

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
006949898-01	OBS	3031.01	7.648170	137.212186	185.7	2.382	10.2	11.6	0.85	5641	1.37	117.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006949898-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

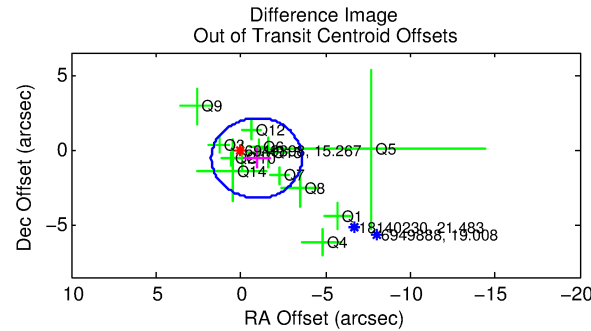
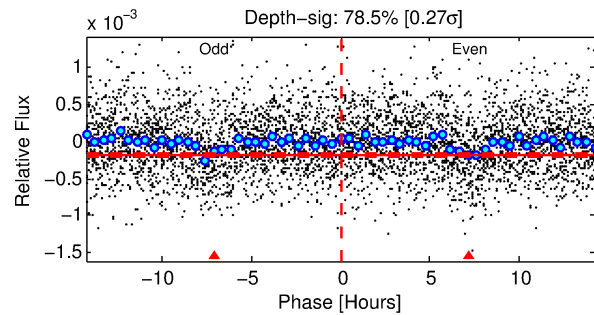
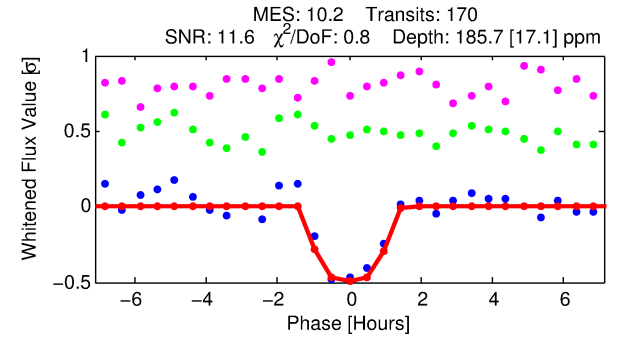
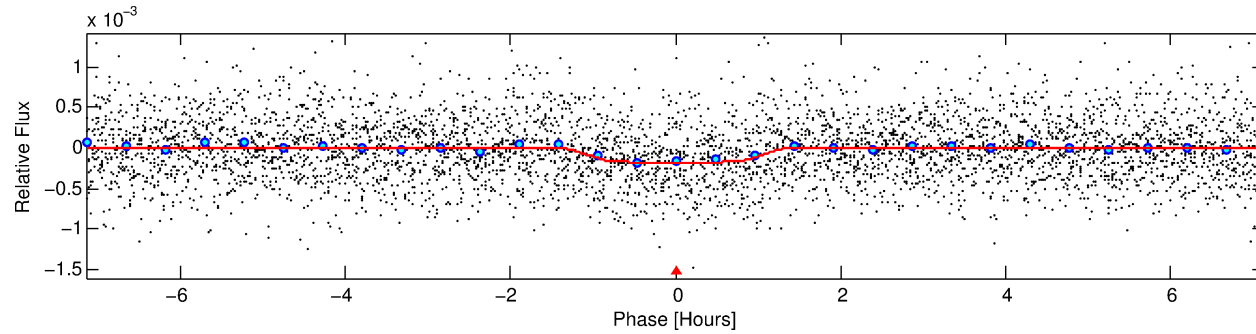
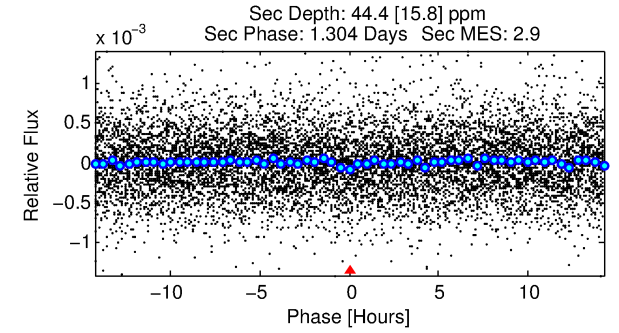
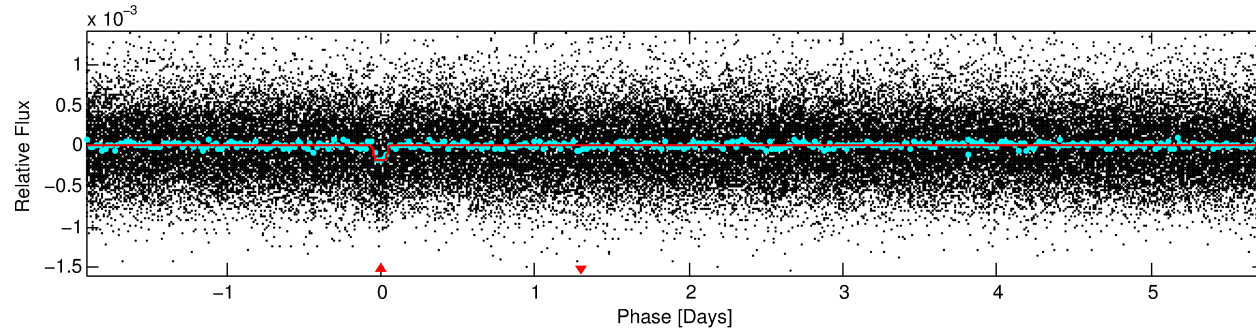
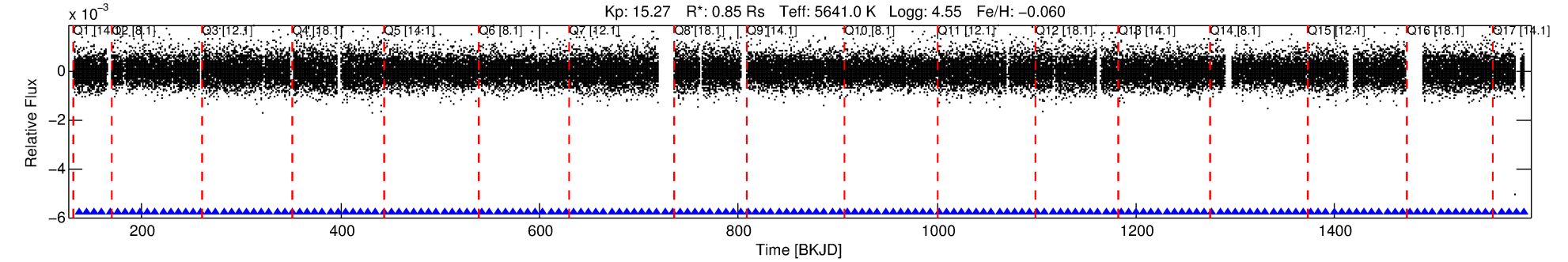
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006949898-01

No Significant Match Found

DV One-Page Summary

KIC: 6949898 Candidate: 1 of 1 Period: 7.648 d
KOI: K03031.01 Corr: 0.946



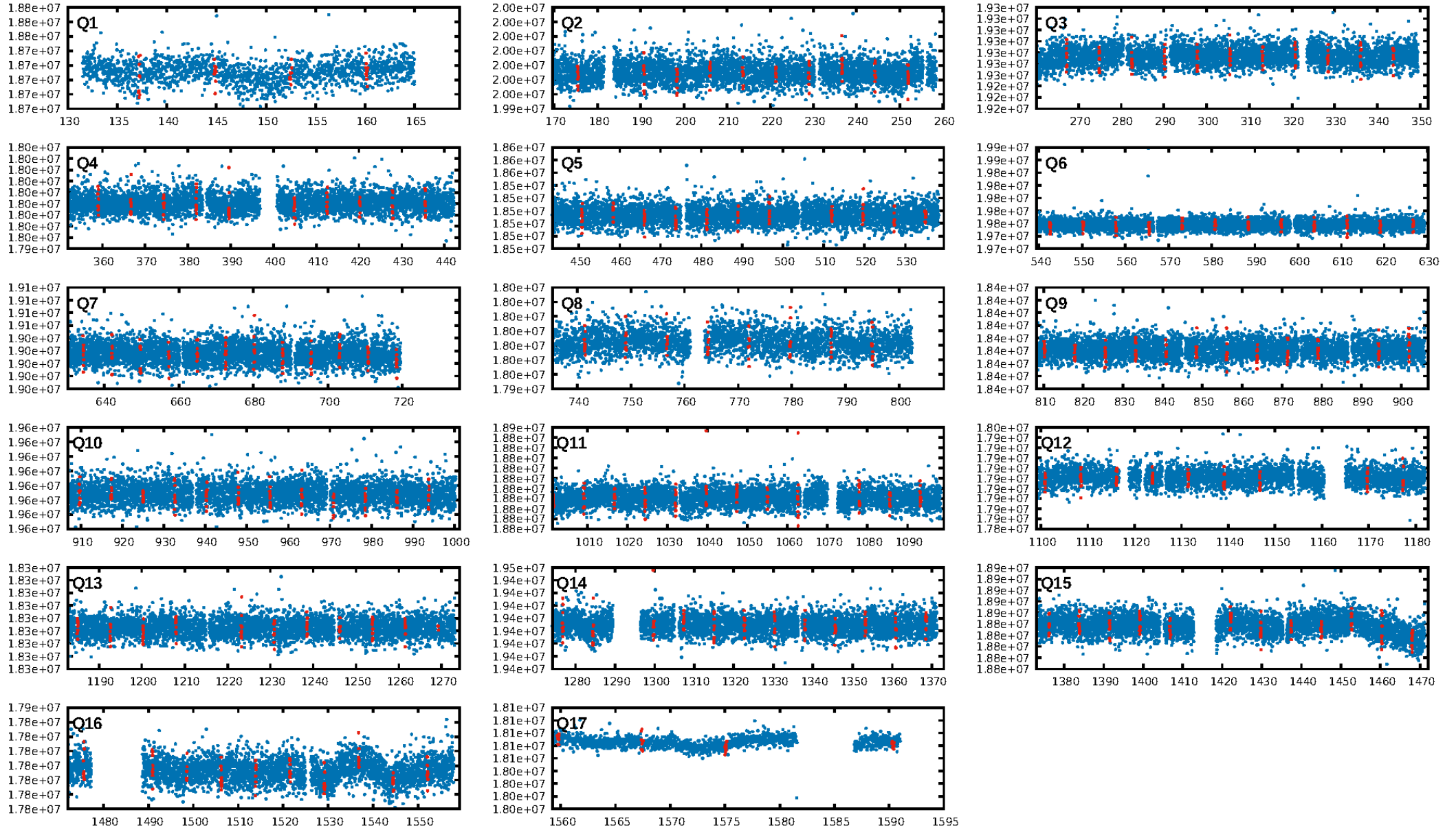
DV Fit Results:

Period = 7.64817 [0.00005] d
Epoch = 137.2122 [0.0046] BKJD
Rp/R* = 0.0148 [0.0100]
a/R* = 11.90 [37.02]
b = 0.89 [0.73]
Seff = 117.99 [40.38]
Teff = 840 [72] K
Rp = 1.37 [1.00] Re
a = 0.0745 [0.0163] AU
Ag = 72.02 [103.57] [0.69σ]
Teffp = 3785 [1331] K [2.21σ]

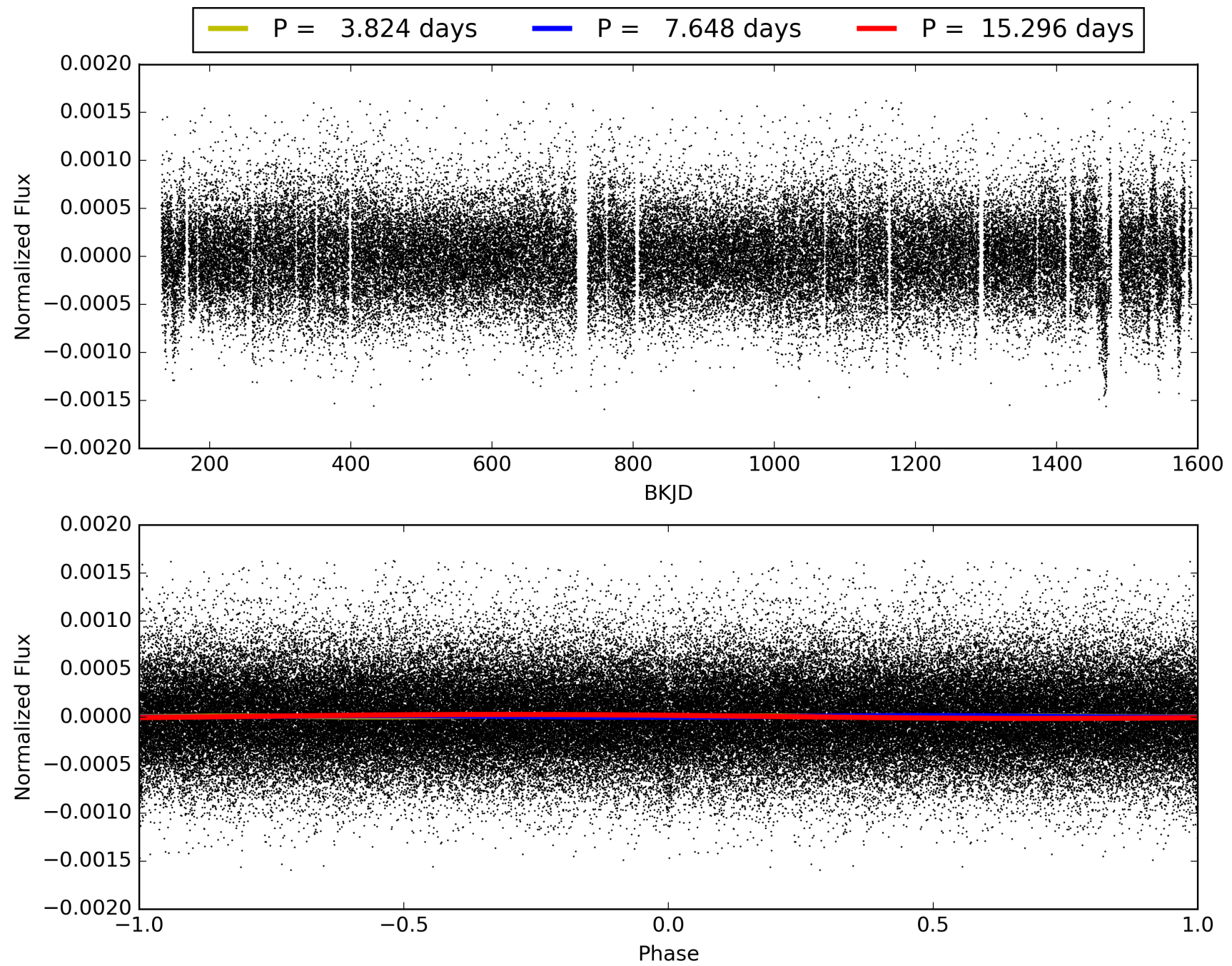
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.21e-24
RollingBand-fgt: 1.00 [162/162]
GhostDiagnostic-chr: 2.206
Centroid-sig: 0.0%
Centroid-so: 3.696 arcsec [3.20σ]
OotOffset-rm: 1.102 arcsec [1.23σ]
KicOffset-rm: 1.128 arcsec [1.39σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006949898-01, PDC Light Curves

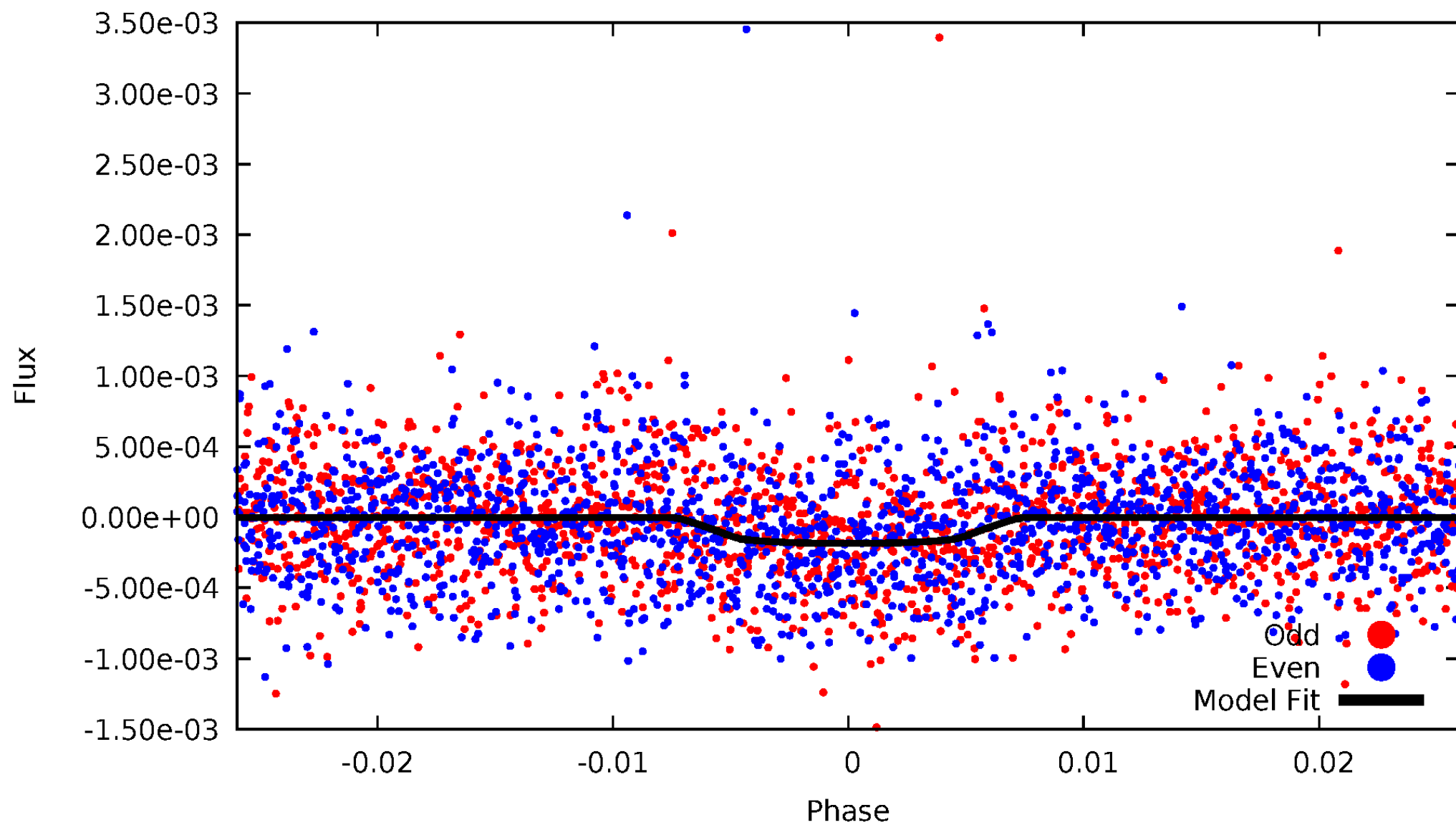


TCE 006949898-01



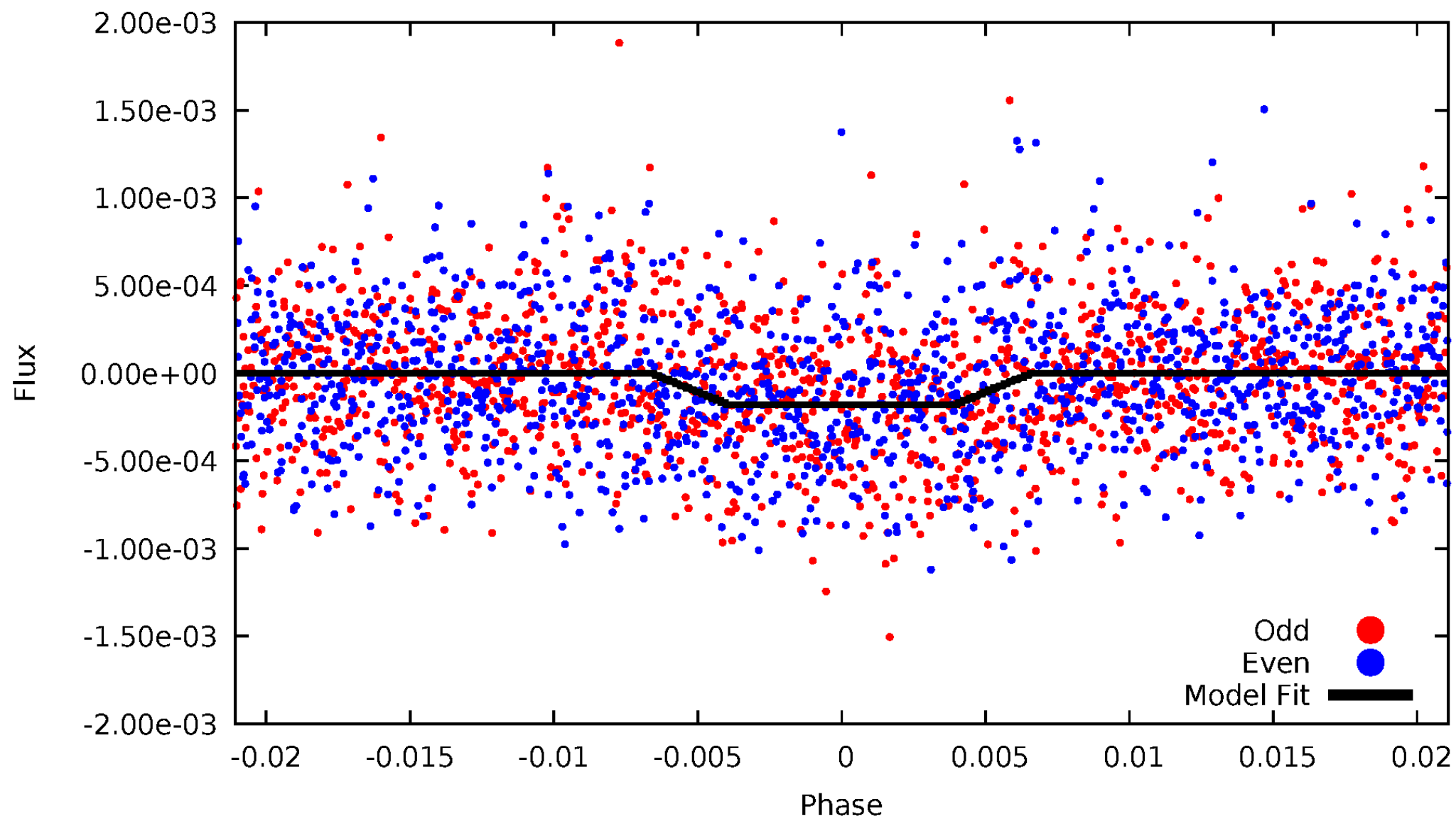
DV Odd/Even

TCE 006949898-01



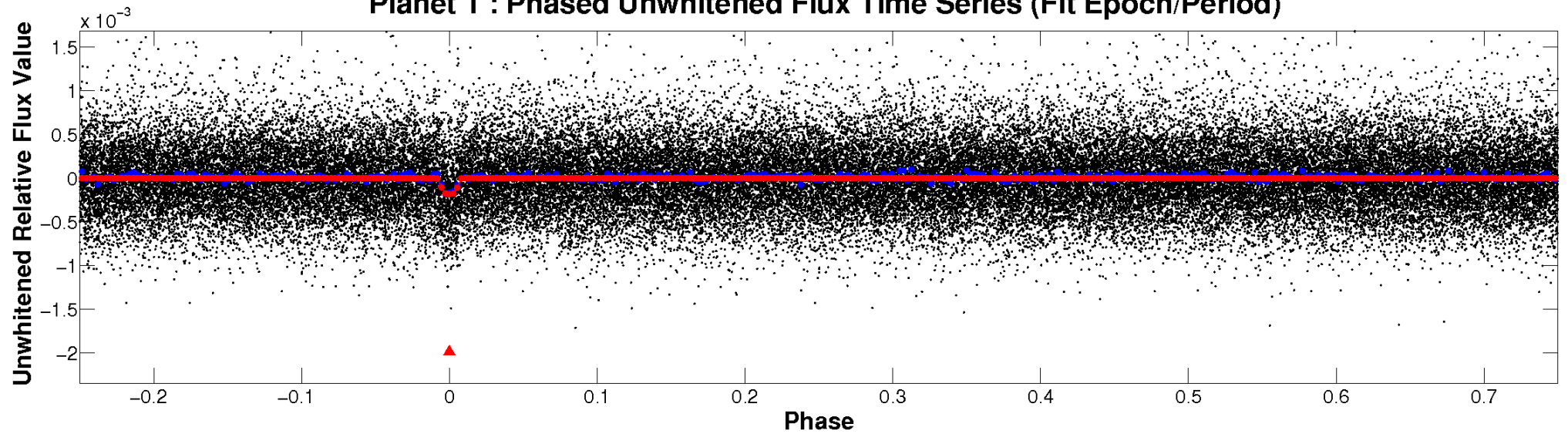
ALT Odd/Even

TCE 006949898-01

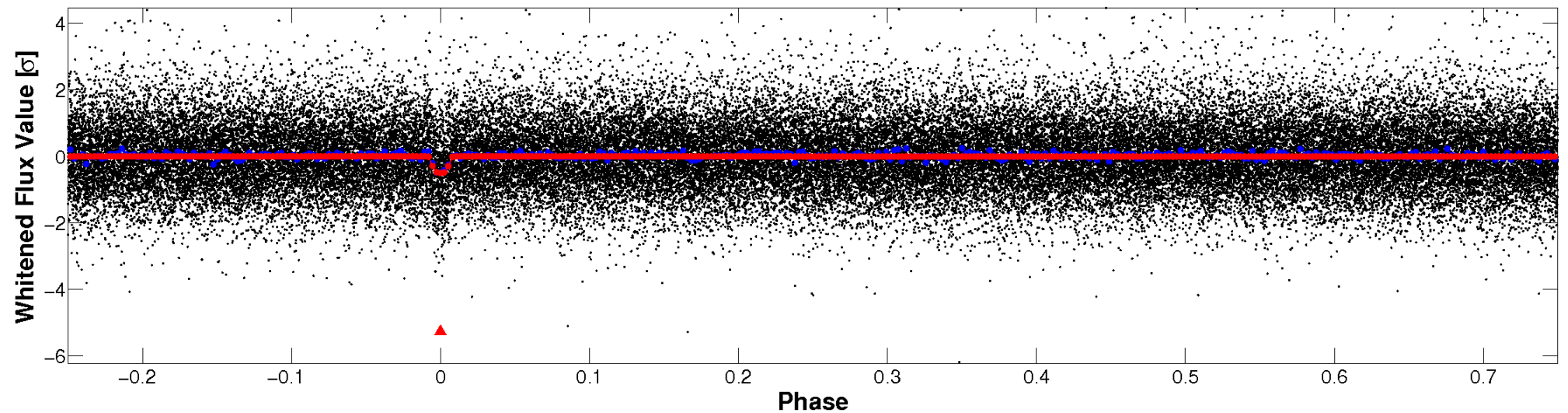


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

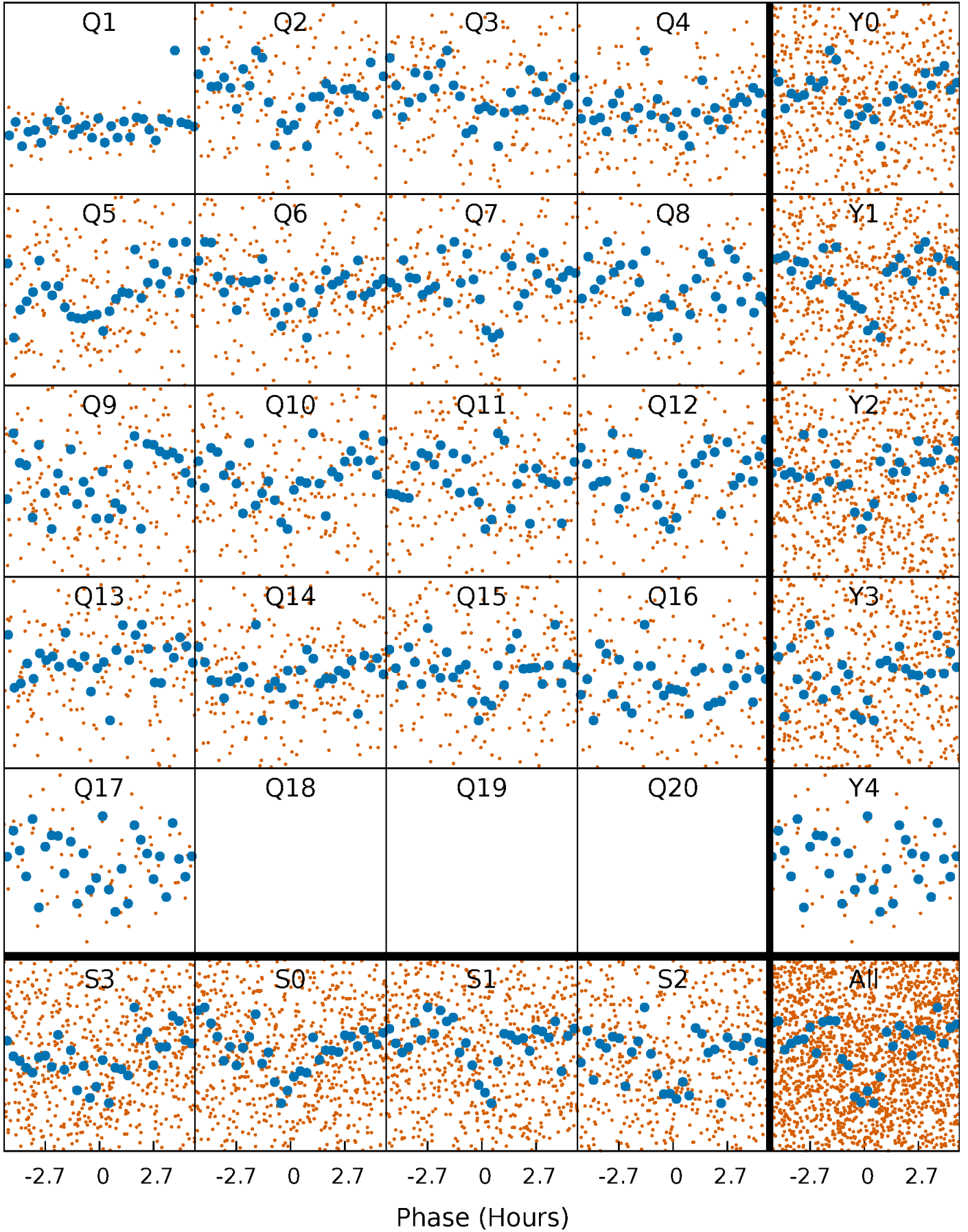


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



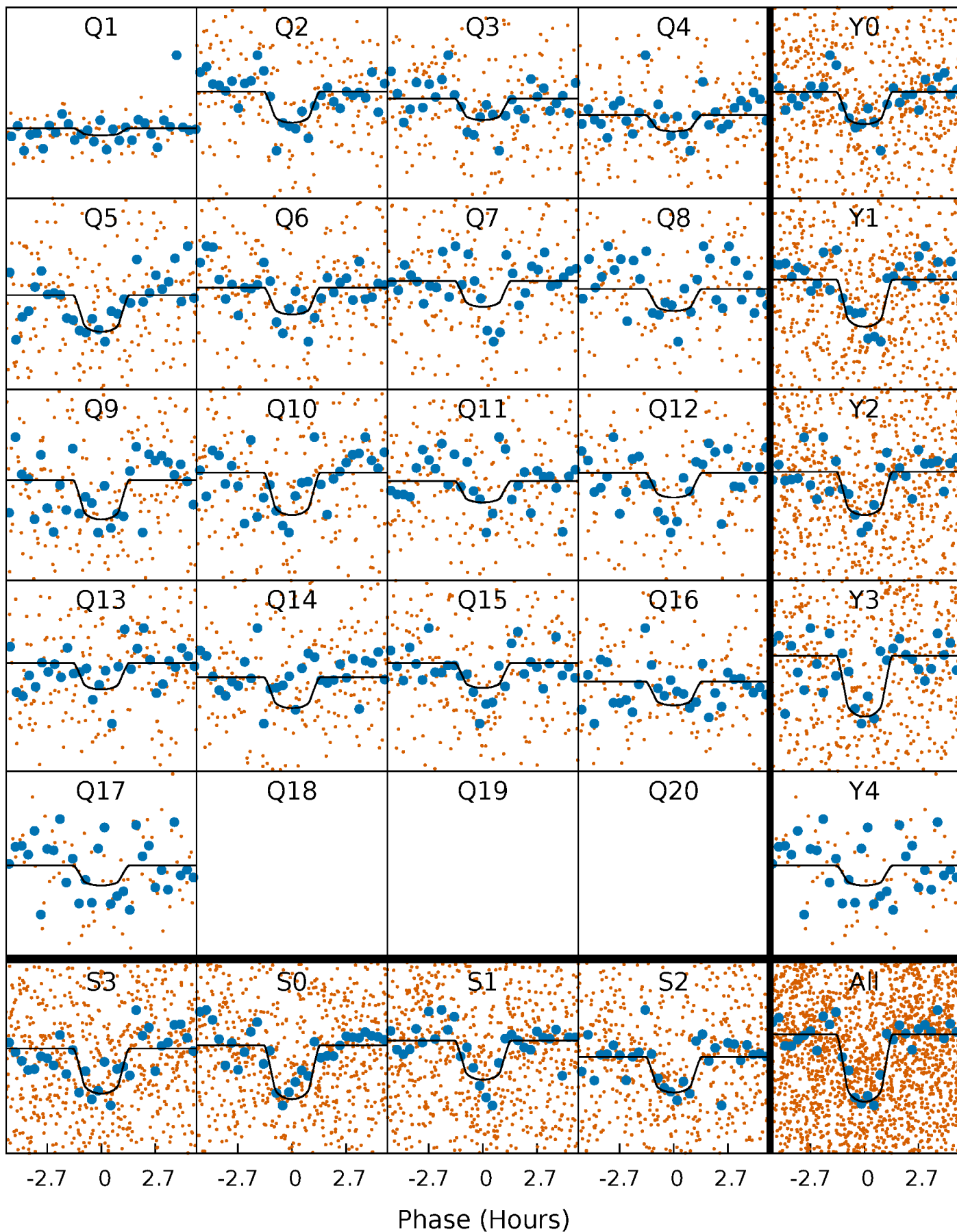
PDC Quarter-Phased Transit Curves

TCE 006949898-01 P= 7.648170 Days $T_0=137.212186$ (BKJD)



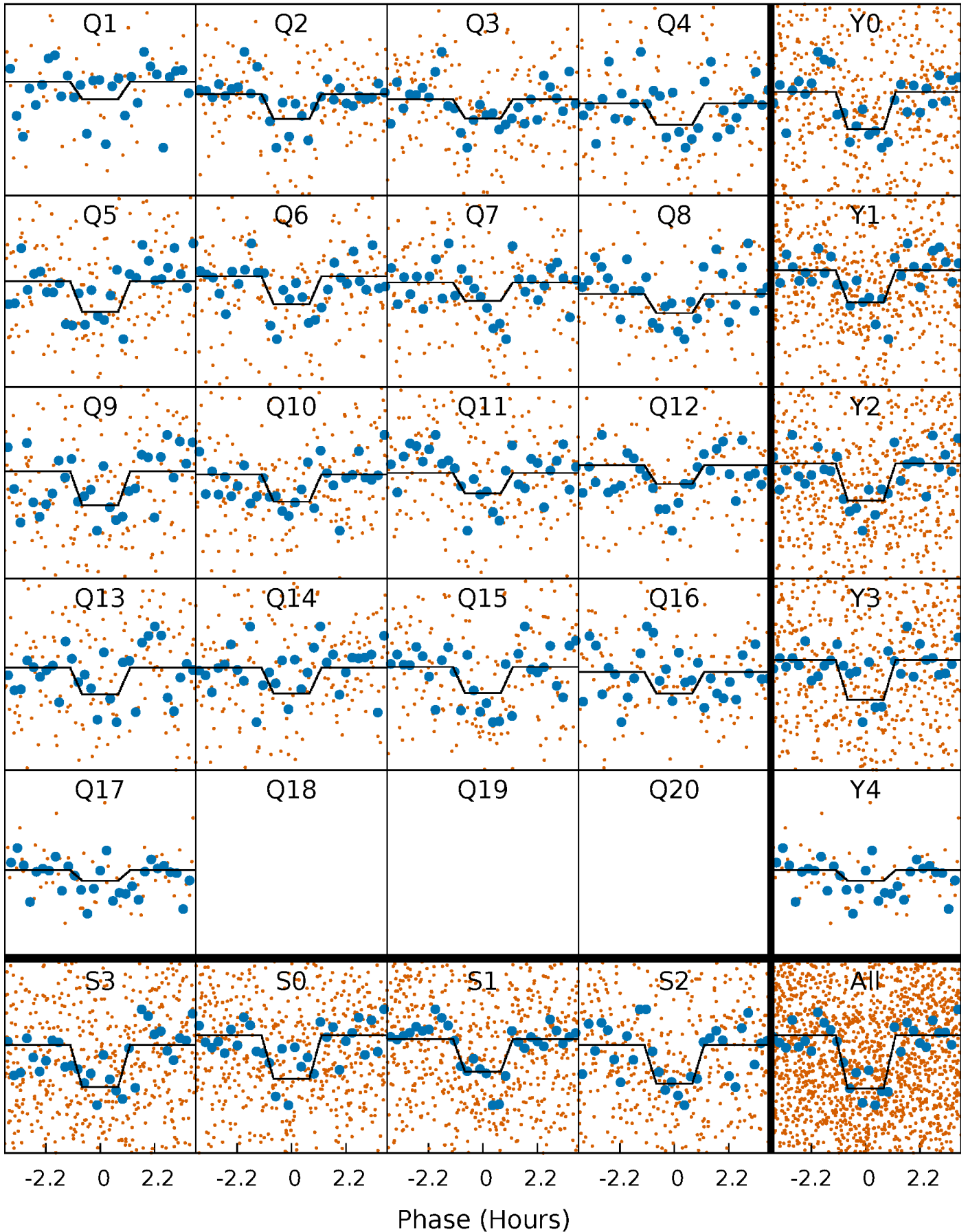
DV Quarter-Phased Transit Curves

TCE 006949898-01 P= 7.648170 Days $T_0=137.212186$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

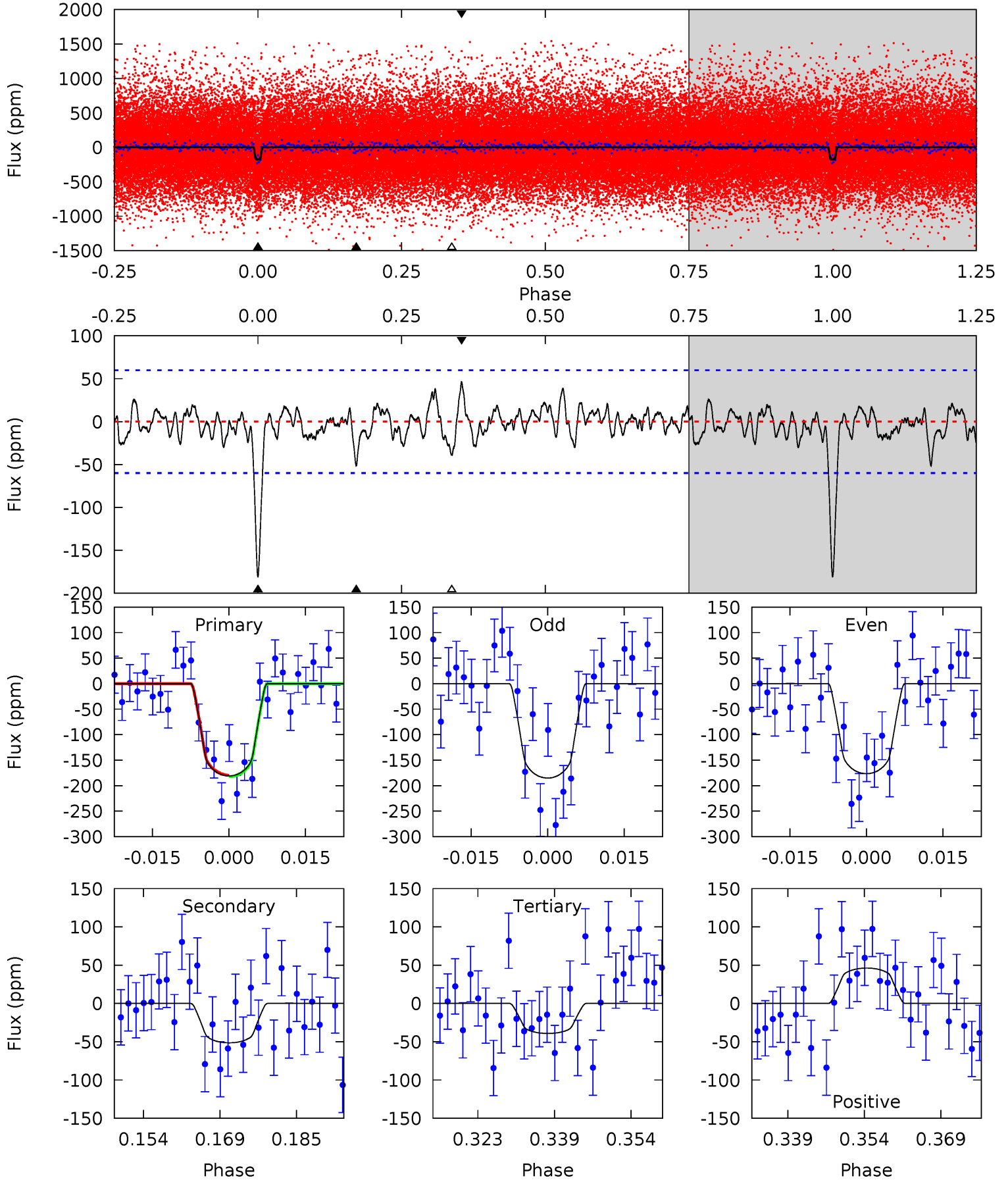
TCE 006949898-01 P= 7.648107 Days $T_0=137.216183$ (BKJD)



DV Model-Shift Uniqueness Test

006949898-01, P = 7.648170 Days, E = 129.564016 Days

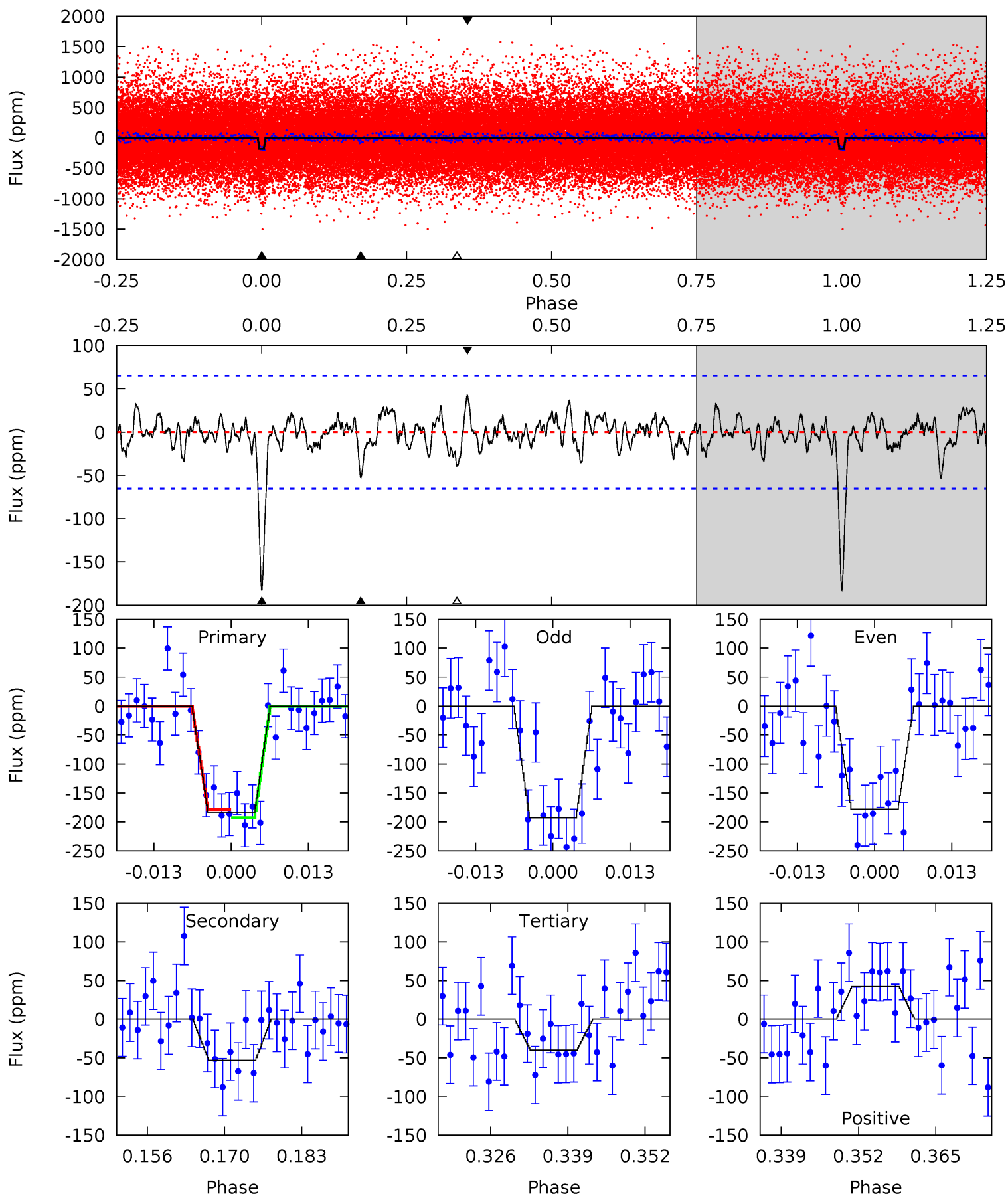
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	4.25	3.24	3.81	4.94	2.42	1.13	11.7	11.1	1.01	0.44	0.35	0.91	0.20	0.12



Alt Model-Shift Uniqueness Test

006949898-01, P = 7.648107 Days, E = 129.568076 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	4.04	3.02	3.21	4.98	2.48	1.07	10.9	10.7	1.02	0.83	0.56	1.02	0.19	0.54



Stellar Parameters For KIC 006949898

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5641^{+169}_{-169}	$4.554^{+0.033}_{-0.176}$	$-0.060^{+0.300}_{-0.300}$	$0.850^{+0.220}_{-0.073}$	$0.944^{+0.095}_{-0.104}$	$2.168^{+0.386}_{-1.050}$
	+3%/-3%	+1%/-4%	+500%/-500%	+26%/-9%	+10%/-11%	+18%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006949898-01 / KOI 3031.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-51 ± 12	$1.61^{+0.94}_{-0.91}$	1206^{+70}_{-55}	4023^{+1600}_{-594}	57^{+263}_{-34}
Alt.	-53 ± 13	$1.43^{+0.83}_{-0.83}$	1201^{+69}_{-49}	4203^{+1954}_{-670}	77^{+363}_{-49}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

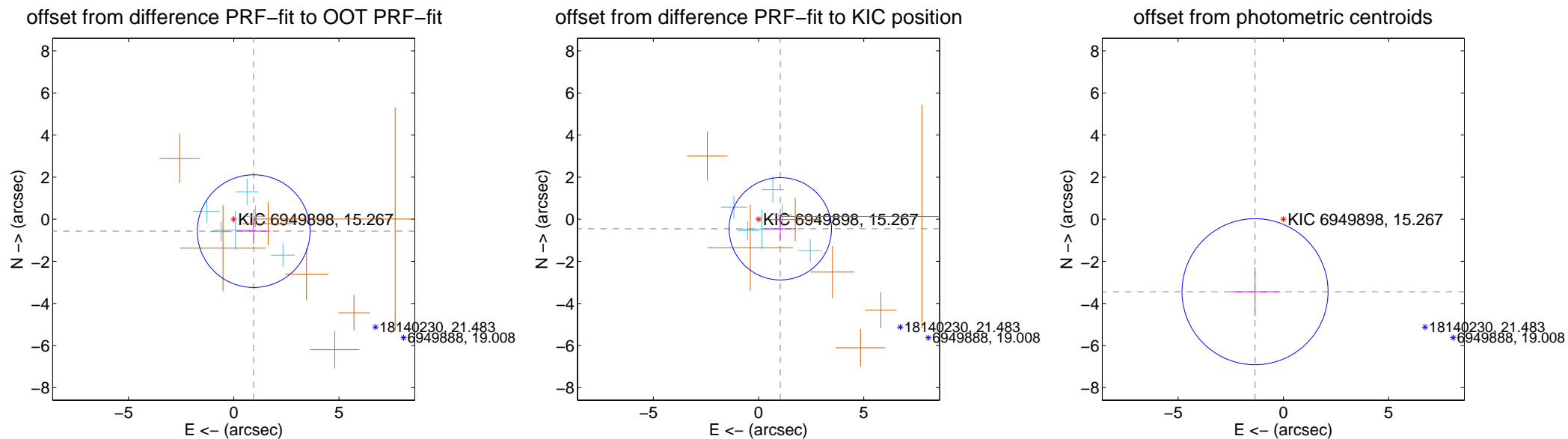
DV Centroid Data

Supplemental centroid analysis for 006949898-01. Kepler magnitude: 15.27. Transit SNR 11.63

There are 6 quarters with good PRF difference image offsets

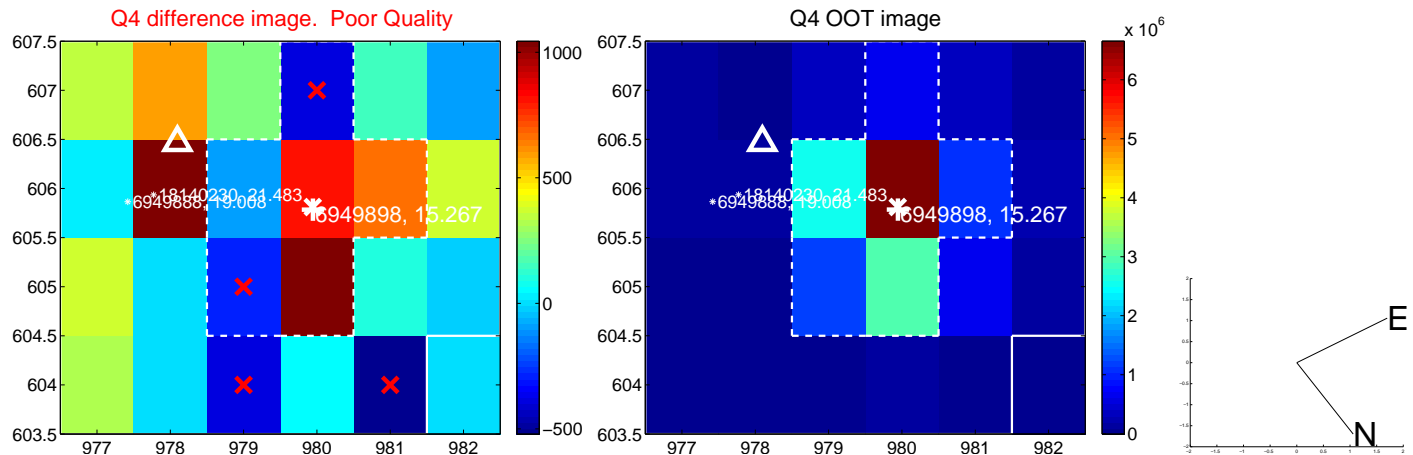
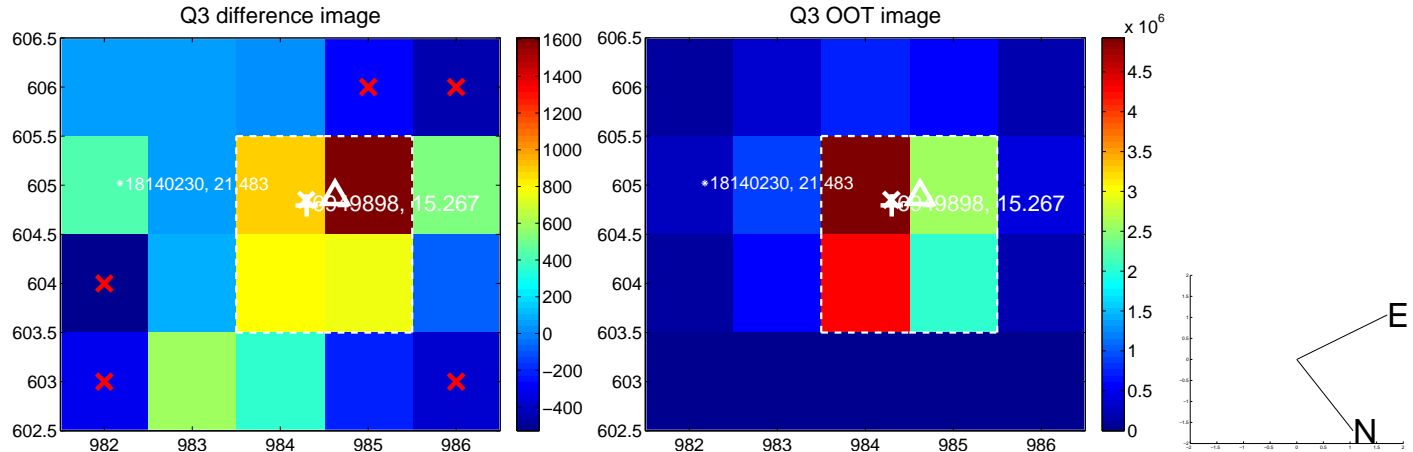
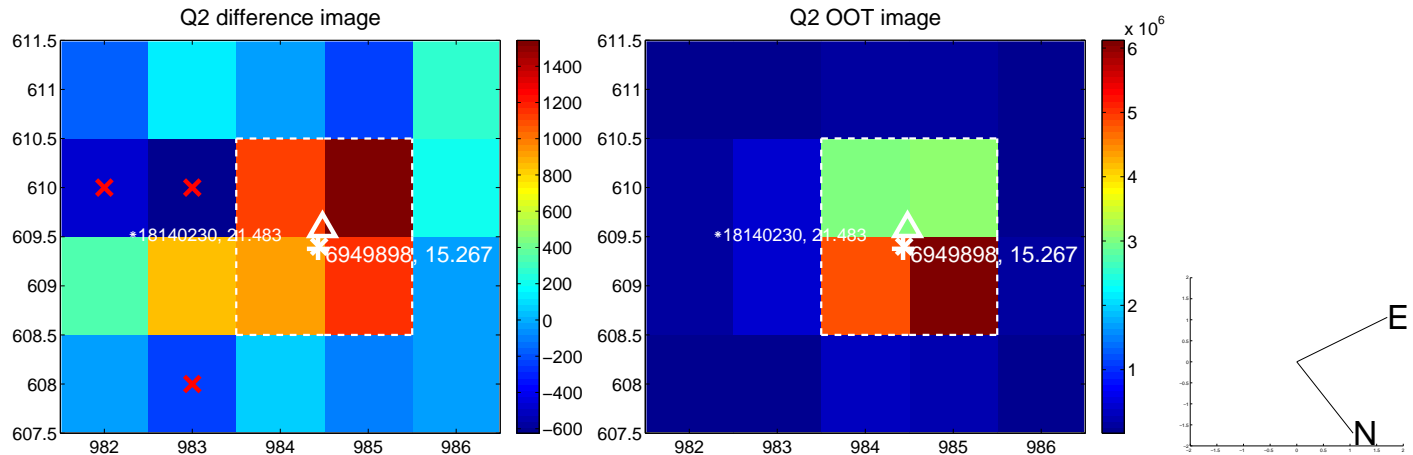
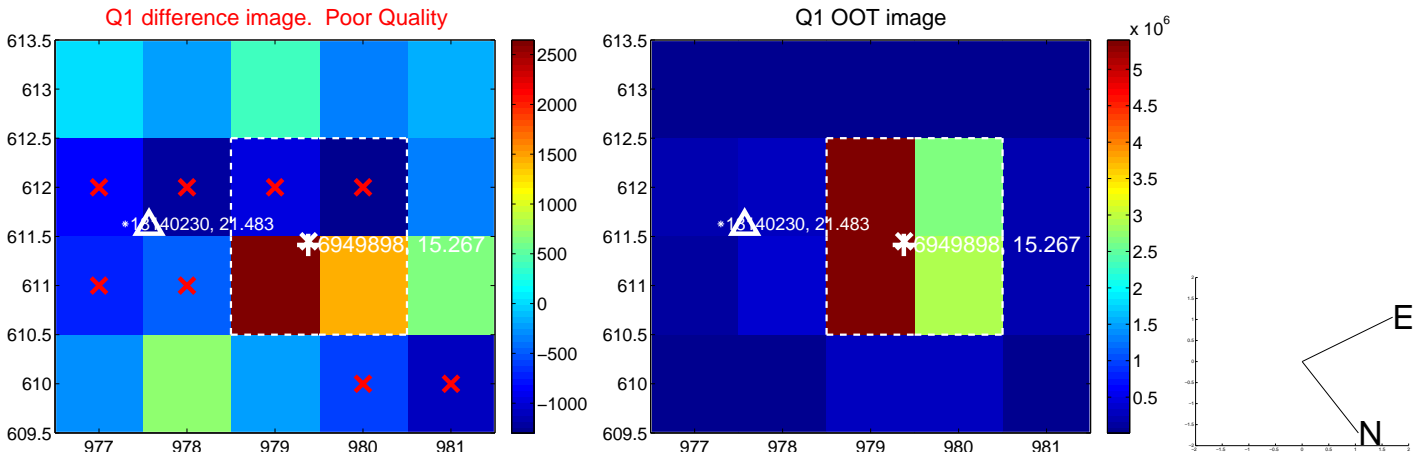
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.102 ± 0.892	1.23	-0.946 ± 0.781	-0.565 ± 0.613
PRF-fit source offset from KIC position	1.128 ± 0.810	1.39	-1.033 ± 0.745	-0.452 ± 0.579
photometric centroid source offset	3.70 ± 1.16	3.20	1.34 ± 1.17	-3.44 ± 1.15

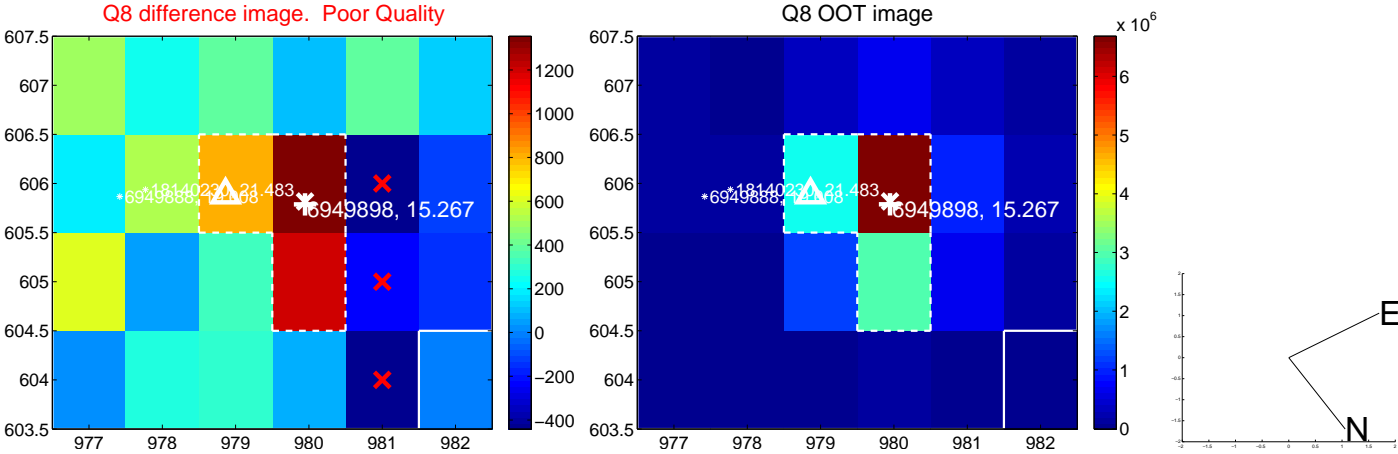
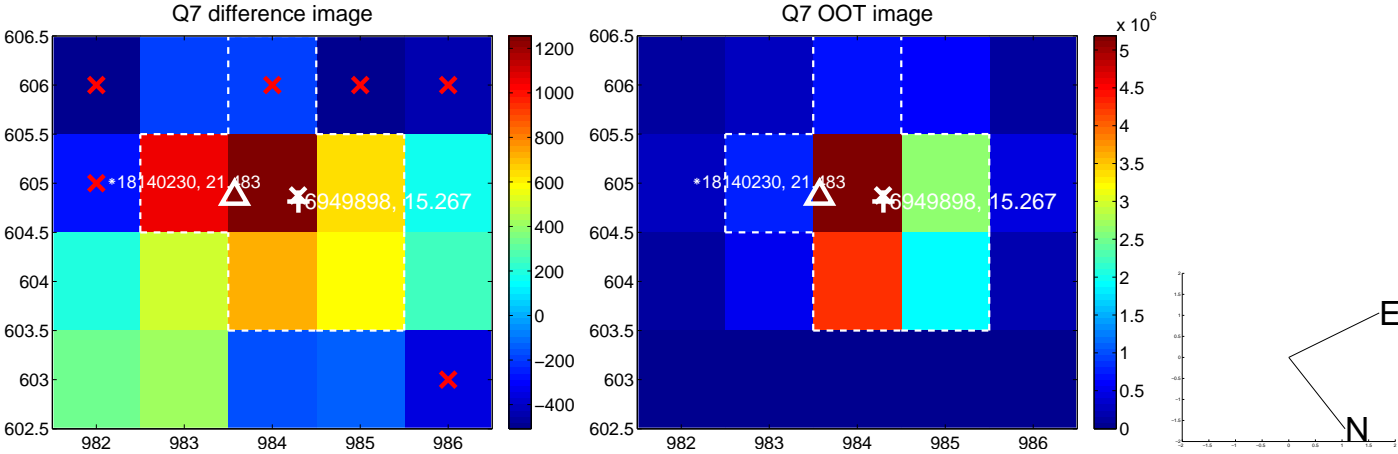
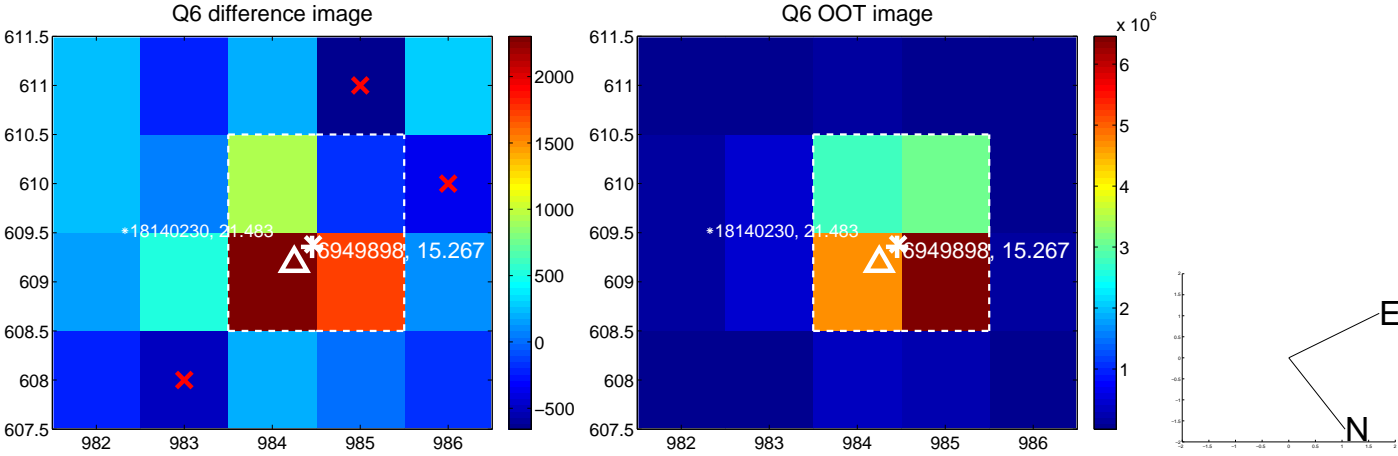
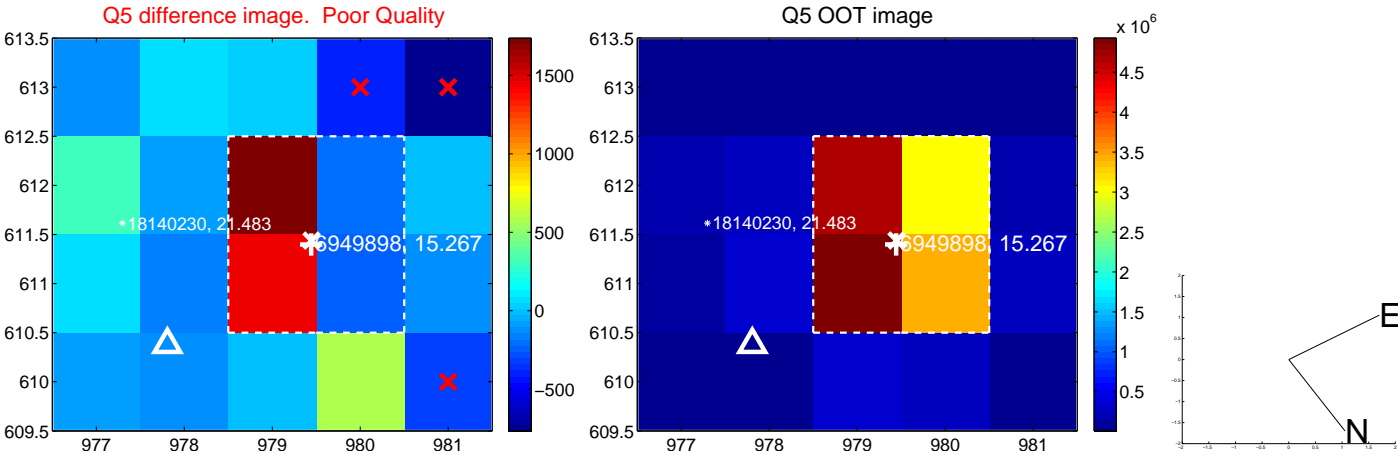


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

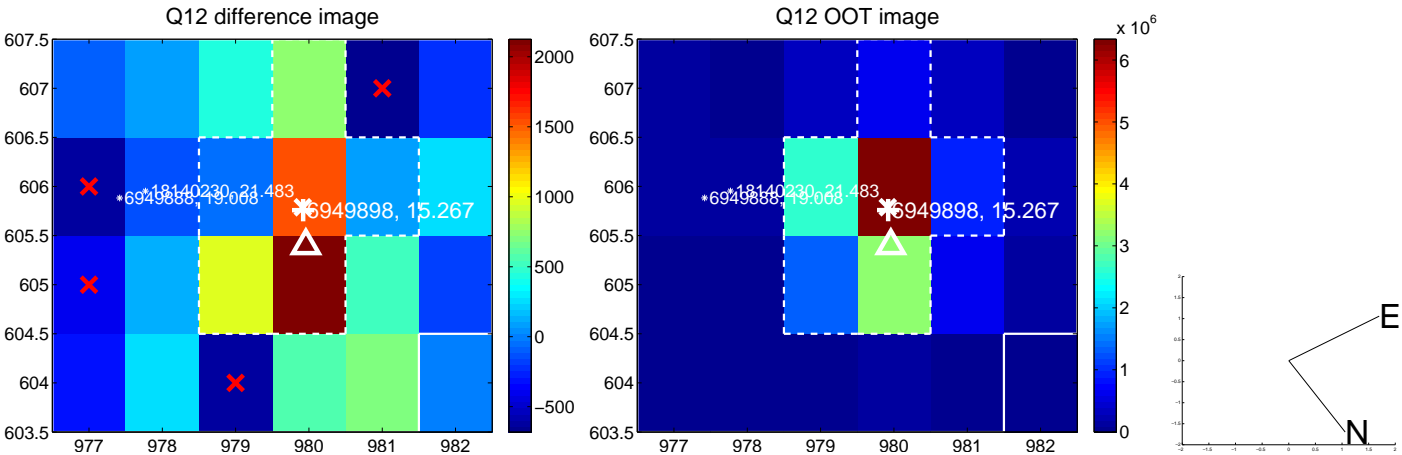
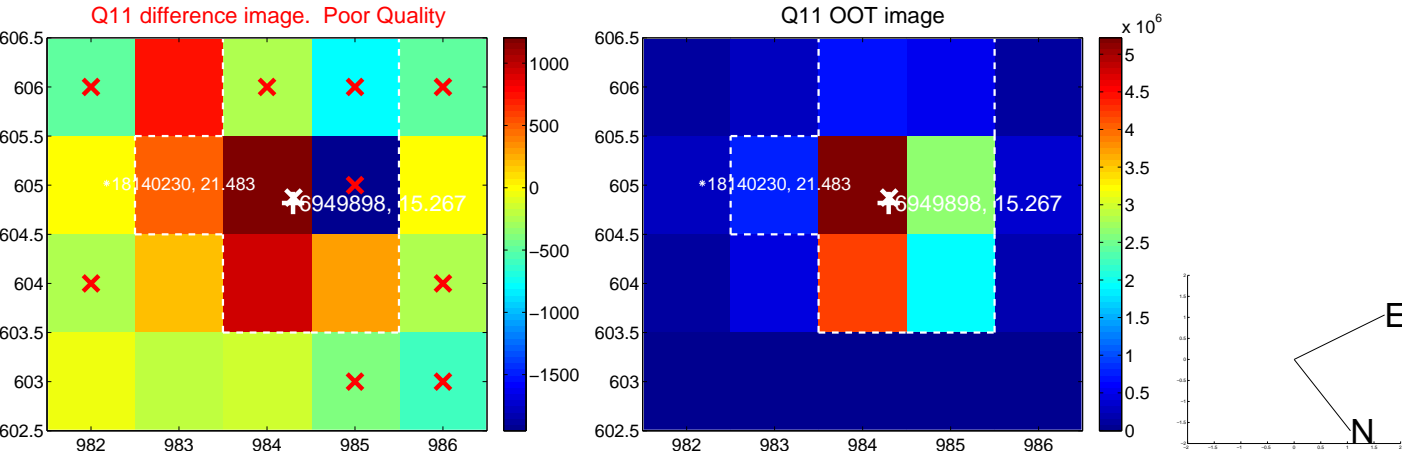
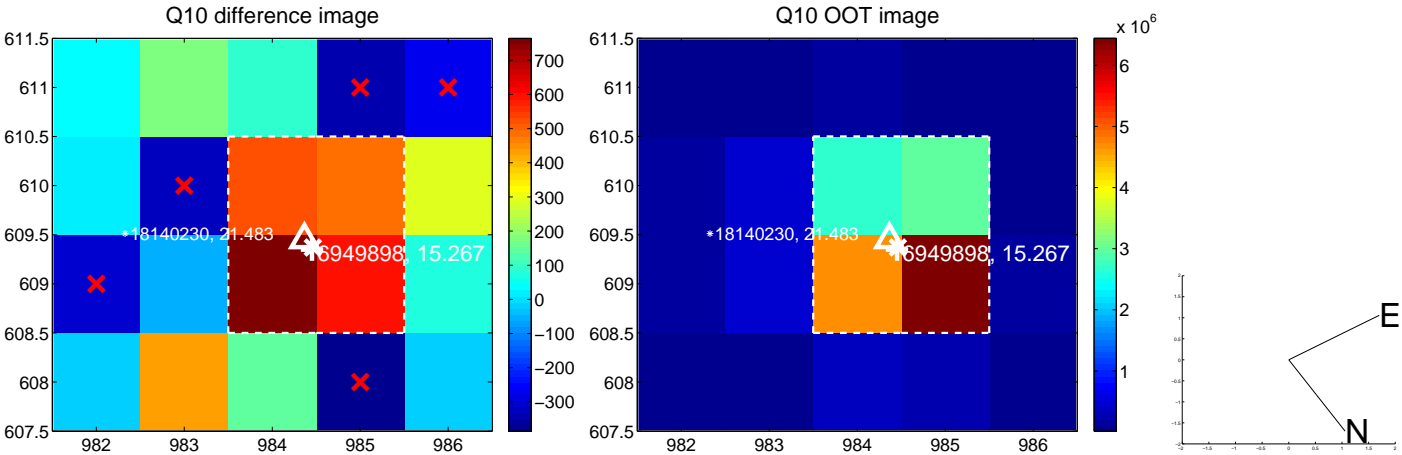
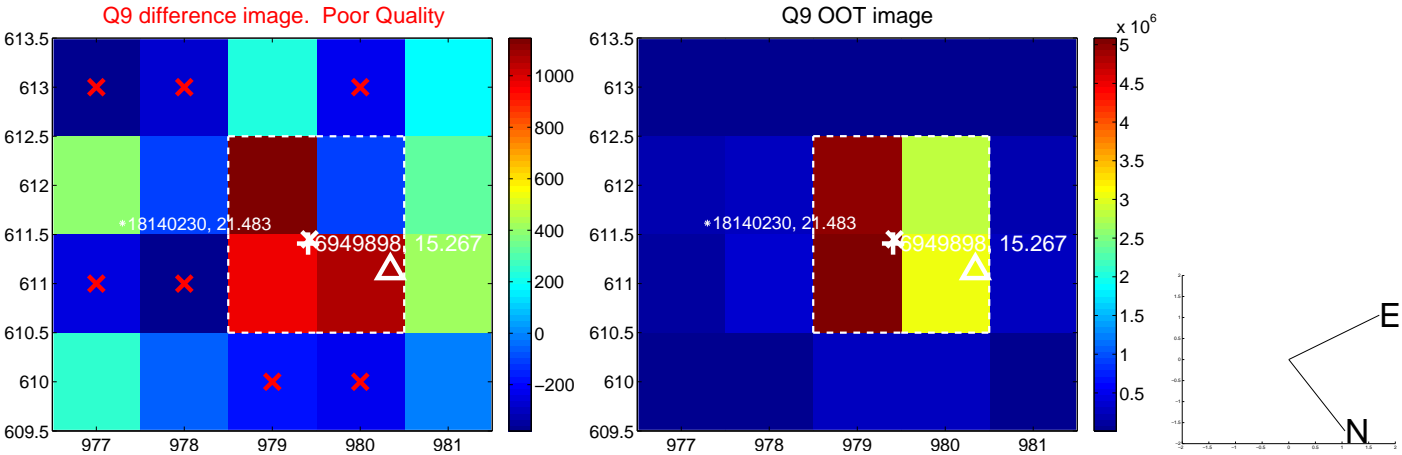
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



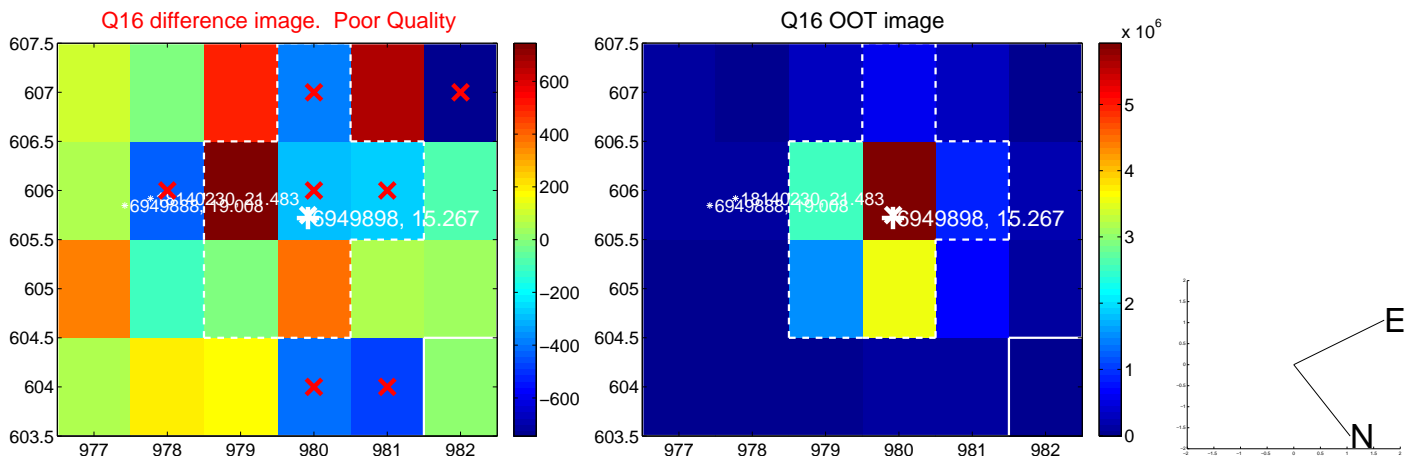
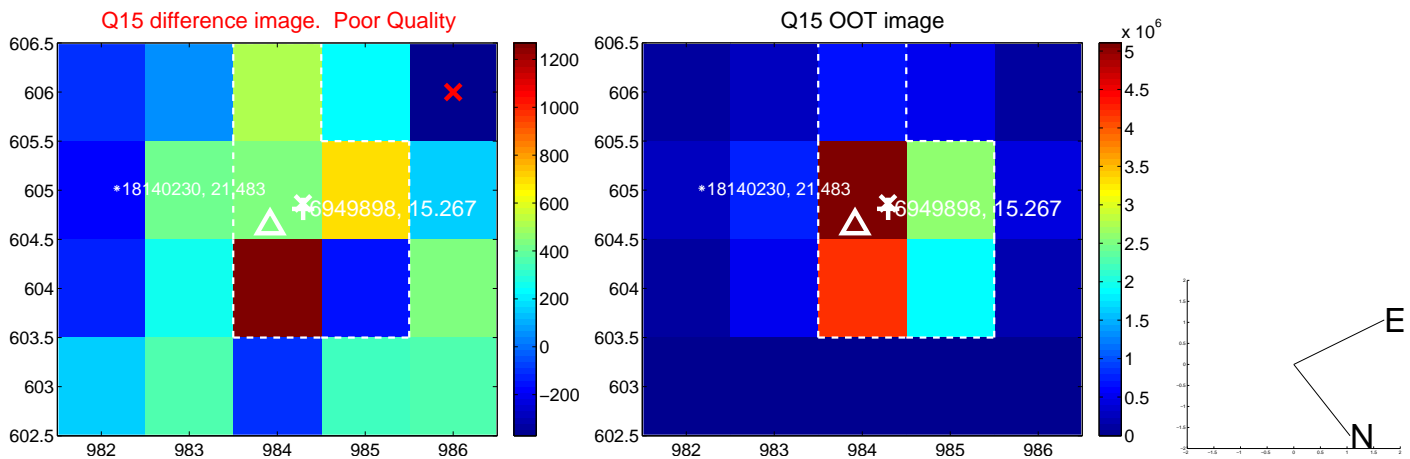
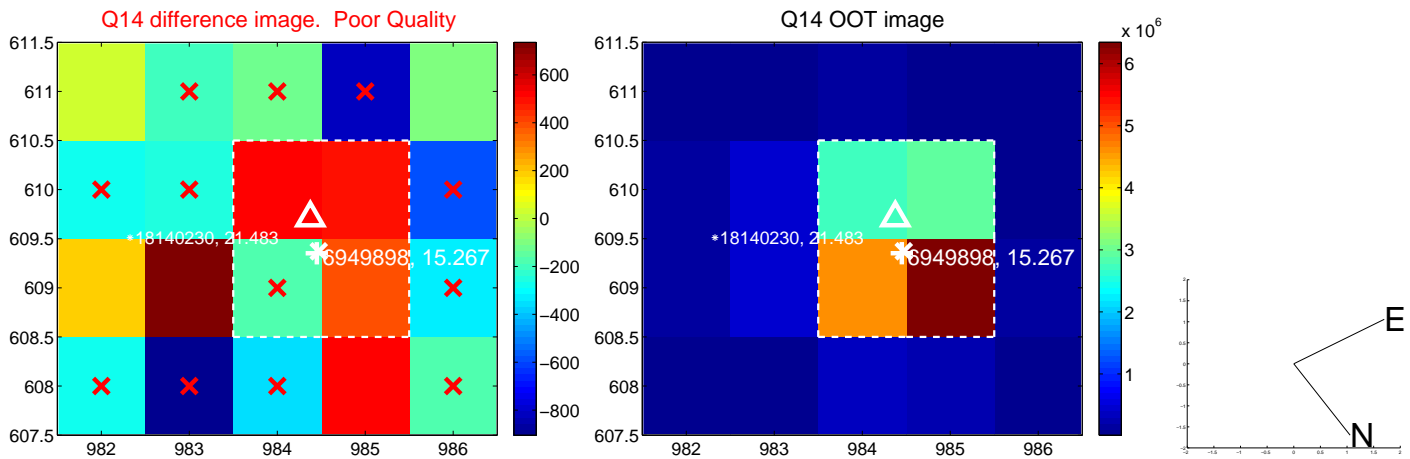
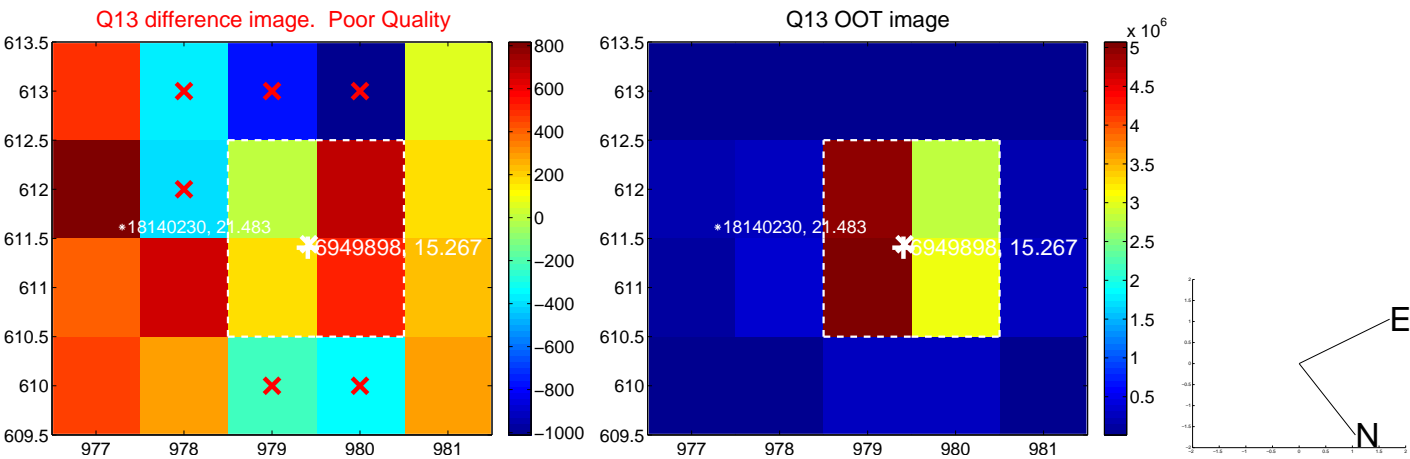
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



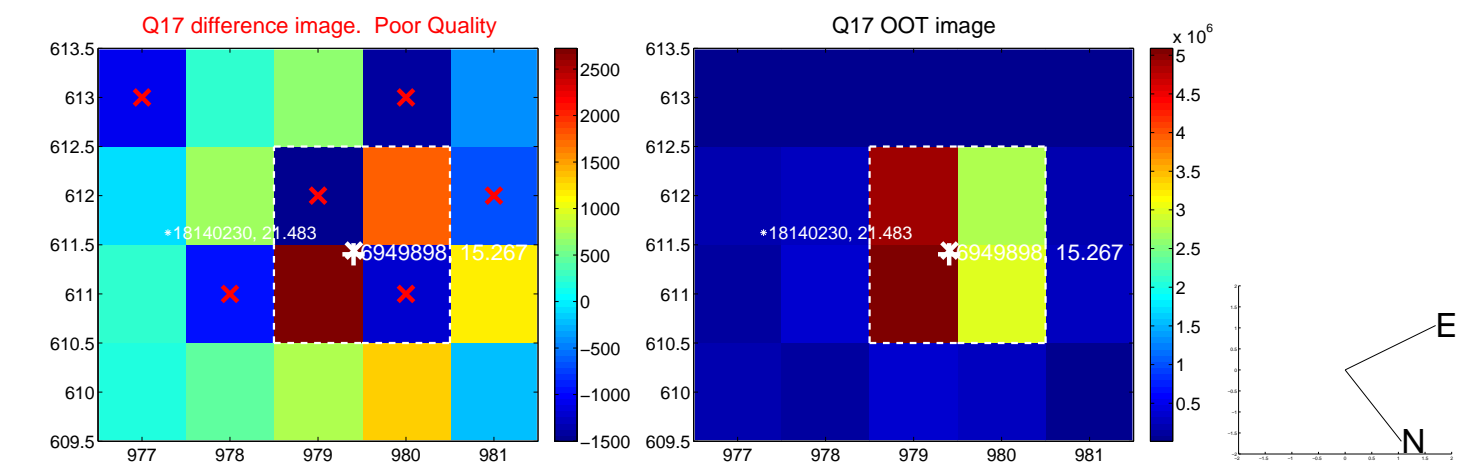
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



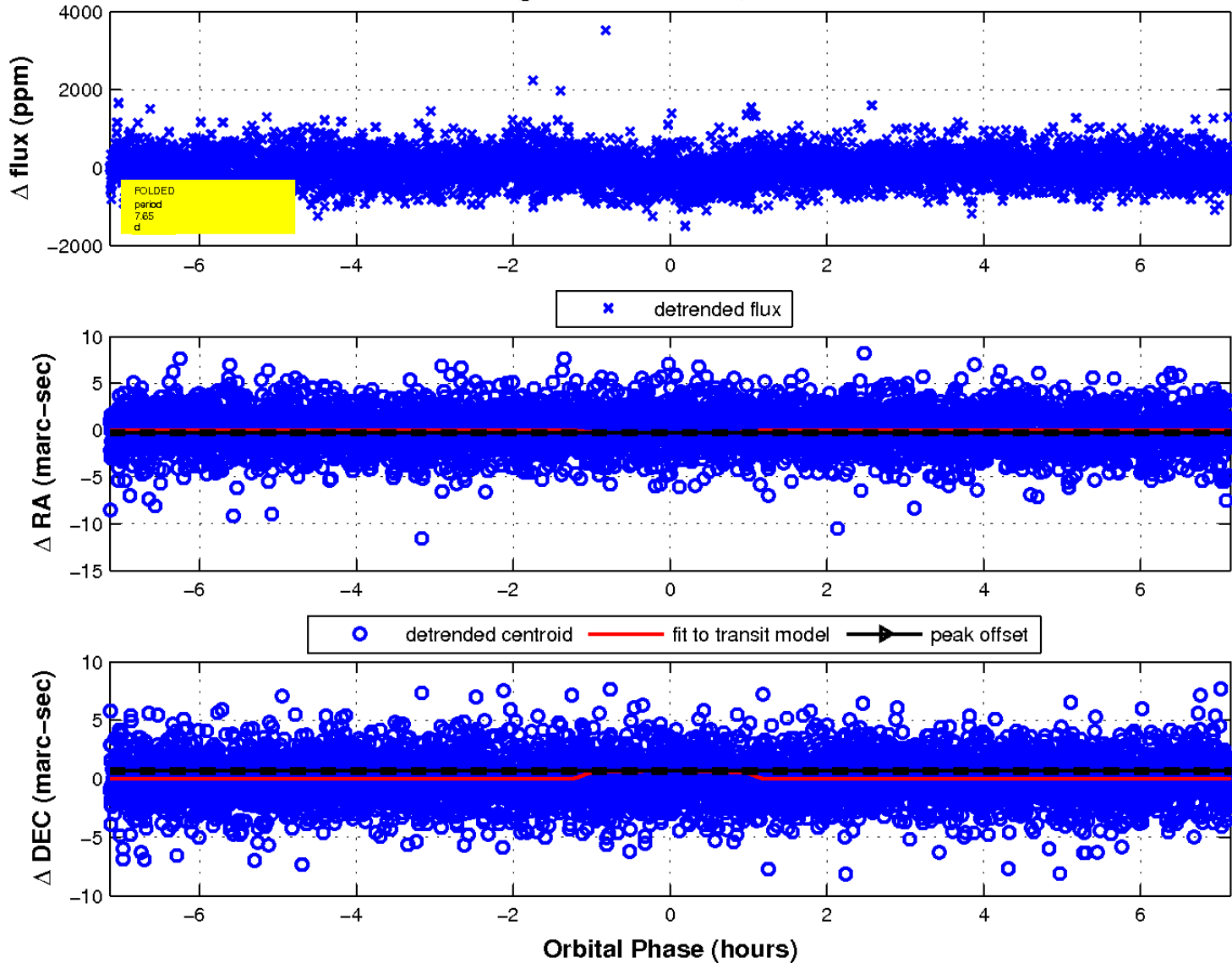
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

